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ABSTRACT

Some art educators believe that art should be studied for its own intrinsic value, while others believe that art instruction provides instrumental outcomes that are valuable beyond the acquisition of art knowledge and skills per se. This latter group of educators, known as instrumentalists, believe, for example, that the study of art promotes creative thinking, self-awareness, social relations, lower absenteeism, and increased test scores in other subject areas. This paper presents a brief review of theory and research findings that support some of the claims for instrumental outcomes. The paper first discusses research that concerns cognitive characteristics and processes relevant to art instruction. It was found that the cognitive rationales for the study of art as they relate to instrumental outcomes hinged primarily on: (1) the extension of knowing what art per se provides; and (2) the relationship artistic knowing has to knowing in other school subjects. The second half of the paper concerns educational research findings supportive of instrumental rationales. Findings show that the visual arts tend to interest and motivate students, and thus art education may be ideal for many at-risk students. A list of 98 references is included. (DB)

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Research and Theories Supporting Art Instruction for Instrumental Outcomes

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Research and Theories Supporting Art Instruction for Instrumental Outcomes

Historically, art educators have presented many different rationales for including visual arts instruction in the school curriculum. These rationales range from recent proposals that art should be studied for its own intrinsic value--this is called discipline-based art education--to the belief that art instruction provides instrumental outcomes that go beyond the acquisition of art knowledge and skills per se. For example, instrumentalists believe that the study of art promotes creative thinking, self-awareness, social relations, lower absenteeism, and increased test scores in other subject areas. Much art education and arts policy literature states or implicitly implies such claims without, unfortunately, the theoretical foundations and research findings to support the transfer of learning and motivational behaviors. In the time that is available, I will be presenting a brief (emphasis on brief) review of relevant theory and research findings that support some of the claims for instrumental outcomes.

I initially became interested in this research topic due to the many times I have heard arts educators and arts administrators refer to ways in which art study improves all of education and the many phone calls I've received from educators throughout the country who have been looking for research evidence to support their art programs on the basis of instrumental outcomes. When Dr. Judith Hanna from the U. S. Department of Education asked me to write on the topic in relation to

at-risk students, I realized that this was an opportunity to find out what information is available. I will limit my discussion today primarily to claims for academic improvement; however, there are also strong claims that art study translates into an increase in student motivation and social adjustment.

Research supportive of instrumental claims for art study is varied. Some is anecdotal; other reports conform to the traditional requirements of descriptive studies and of quasi or true experimental investigations. It is anticipated that, in the future, anecdotal and narrative reports may be given greater credence in validating learning outcomes for a variety of purposes, including instrumental outcomes. Today I will be discussing: (1) theoretical bases for assumptions of cognitive transfer and social-personal relations and (2) research findings supportive of instrumental rationales.

Ways of Knowing and Communicating

Although Western value systems have separated thought from the senses and have placed visual and nonverbal experiences as inferior to written and spoken language, Eisner (1981, 1982) and Gardner (1973, 1990), among others, have discussed the cognitive components of artistic expression and response. The focus here will be on cognitive characteristics and processes that (1) are considered integral to the study of art and (2) are initiated by art experiences and then later are transferred to and utilized in nonart contexts.

Cognition Integral to Visual Art

Art educators assume that art study results in a more balanced

education, going beyond the usual educational emphasis on language and mathematical learning. Art study involves a form of visual thinking that deals with concepts and percepts and opens the way for multiple systems and forms of knowing and being (Anderson, 1981; Perkins & Leander, 1977). McFee (1970) cited the range of individual differences that influence learning, and I (Hamblen, 1983) have proposed the use of cognition as an umbrella term that subsumes many ways of knowing and experiencing. Gardner's (1973) research on multiple intelligences by which humans realize their abilities also applies here. More specifically, cognitive scientists have studied relationships between the value or affect given to specific learning tasks and positive learning outcomes, the role imagery plays in forming ideas and verbal descriptions, and the range of comprehension strategies used in learning situations (Finke, 1985; Palinscar & Brown, 1984; Rollins, 1989). These researchers are working to eliminate the narrow range of knowing and assessment of learning that exists in most school systems.

Cognitive research suggests that visual thinking consists of mental images that comprise information, experiences, ideas, and fantasies; these images are organized into structures or categories that are constructed and manipulated on the basis of learning and experience (Finke, 1985). There are the imagery categories of placement, location, near-and-far, forward-and-backward, and self in relationship to movement. Visual concepts consist of representation, relationships among parts, symbolism, transformation, selection, manipulation of parts

in relationship to the whole, creating order, and creating variety (Burton, 1981; Ivey & Ivey, 1990). These processes exist cognitively or internally and are concretely expressed and made visible through artmaking activities and in the final art product.

The cognition particular to art is perceptual as well as internally relational. Artistic cognition does not need to have a visual, real-world correlate, nor does it have to rely on the formation of identifiable, representational internalized images (Eisner, 1980). Rather, artistic cognition consists of constructed, visual forms that are analogous, though not isomorphic, to experience (Ives & Pond, 1980). When a painting depicts happiness, for example, nothing in the composition needs to be literally "happy." Rather, artmakers may abstract happiness by cheerful colors and playful shapes or a realistically depicted pleasant scene. Visual concepts, relational concepts, and expressive concepts come into play during the young child's--and adult artist's--making of art (Burton, 1980b).

Art has its own visual, organizing knowledge and logic that extends knowing and understanding beyond traditional school knowledge and skills to a form of artistic intelligence or literacy; art offers ways of thinking (cognition) that are not taken into <u>conscious</u> account in most school curricula (Eisner, 1980, 1982). This thinking is qualitative, relational, connotative, and affective (Langer, 1953).

The claim is not that artistic knowing is superior to other forms of knowing, such as our culture's predominately written and verbal forms of communication, nor is it claimed that art must be translated into verbal

descriptions and analyses in order to be a legitimate form of knowing. Rather, the proposal is that cognition is manifold, encompassing many ways of knowing and communicating--verbal, nonverbal, perceptual, empathic, kinesthetic, expressive, and so on (Hamblen, 1983). Likewise, humans use a variety of modalities in understanding, relating to, and creating their social and personal environments. Art study is a mindbuilder to the extent that it provides access to ways of knowing that may not be tapped by other forms of communication and that may not be dealt with in other subject areas.

Education, in general, provides students with elaborated or extended codes of knowing that allow for hypothesis testing, with academic achievement related to the depth and richness of the hypotheses students are able to call forth in a given situation (Bruner, 1960). The study of art provides the student with a more extensive and elaborate repertoire of hypotheses against which to test ideas against experience.

Most discussions on artistic cognition have been limited to studio work or, to some extent, responses to and appreciation of art. Recently, however, art curricula proposals have been extended to include instruction in art criticism, aesthetics, and art history which offer significant occasions for critical thinking, exploratory activities, and higher order thinking (Eisner, 1987). I believe that some of the research results relating academic achievement to art study can be attributed instruction beyond studio work. Several of the research studies conducted by classroom teachers through the National Arts

Education Research Center at NYU indicate that the inclusion of instruction in art history, aesthetics, and art criticism increases vocabulary skills, critical thinking, and writing skills.

Aesthetics deals with questions such as "What is the nature of art?" "How is art defined?" "How does an historical artifact become reclassified as a work of art?" Weitz (1962) suggested that art is a contested concept, thereby eluding easy or singular answers to questions of meaning and definition. Accordingly, aesthetic inquiry forces students to examine hypotheses, statements of value, and the ambiguities of artistic meanings and designations (Hamblen, 1985). Engaging in inquiry processes and examining the logic of statements made about art are just two approaches to aesthetic instruction. Programs for children that involve the study of philosophical concepts have also been successfully used in art classrooms (Hagaman, 1990; Lankford 1990; Lipman, Sharp, & Oscangan, 1980; Russell, 1991; Stewart, n.d.).

When art history is not taught as a series of established dates, styles, and artists--that is an important proviso--it offers occasions for the inquiry skills of inductive and deductive reasoning and the exploration of alternative hypotheses. When students explore historical meanings of art and artifacts from their own culture and the cultures of others, teachers ask them to employ inquiry skills of problem solving, investigation, analysis, synthesis, and evaluation.

Whereas aesthetics deals with concerns regarding broad classifications of art, and art history involves the investigation of art in its socio-historical context, art criticism focuses attention on

the analysis and evaluation of specific art objects. There are various approaches to art criticism, such as inductive, deductive, emphatic, collective, phenomenological, Neo-Marxist, and feminist, among others (Chapman, 1978; Garber, 1990; Hamblen, 1984). However, to a certain extent, most instructional art criticism follows some type of critical thinking process (Feldman, 1981). Art criticism encapsulates thinking strategies ranging from denotative to connotative, from factual to evaluative, from lower cognitive levels to the higher cognitive levels of analysis, supposition, and evaluation (Armstrong & Armstrong, 1977; Bloom, Engelhart, Furst, Hill, & Krathwohl, 1956; Hamblen, 1984).

Cognitive Transfer From Art

Up to this point, I've been referring to cognitive processes considered more or less integral to art study per se. I would now like to discuss the "fall-out" effects art study may have on other subjects.

For example, when art history, aesthetics, and art criticism are included in the art curriculum in addition to studio experiences, the many cognitive processes of artistic knowing become even more encompassing and interrelated with other subject areas and school experiences. Many of the methods of aesthetic inquiry, art history and studio decision making, and art critical analysis relate to standardized testing, such as Florida's State Standards for elementary schools. In integrated arts elementary schools supported by the Greater Augusta Arts Council of Augusta, Georgia, instruction in the areas of aesthetics, art criticism, and art history offer many possibilities whereby connections

can be made to learning in mathematics, the social sciences, language arts, and the physical and biological sciences. Mathematical concepts relate to visual configurations and patterns; history comes alive through the study of past cultures' architecture and ritual art forms; language art activities utilize descriptive and analytical statements on the meaning of art objects.

For instruction in aesthetics, teachers of discipline-based art programs in Florida report students' abilities to pose and answer "the big questions" of how art is defined, how art relates (or does not relate) to the natural world, the role of craft and technique in art, and so on. Children pose questions, examine evidence, hypothesize various answers, evaluate possible outcomes, and debate the merits of their conclusions; they engage in verbal discussion and complete written assignments. Likewise, in the study of art criticism and art history, students are involved in a variety of thinking skills and assignment tasks that are highly similar to those valued in other subject areas. In art history, students analyze art objects to find the themes or problems that artists examine in visual forms. Art objects are studied as clues to the ideas and values of the people and societies that produced them. Teachers encourage research skills by asking students to find out where an art object was made, by whom, why, how, and when.

According to Eisner (1980), "An inability to use any one form of representation available in the culture can be a liability for the use of others" (Eisner, 1980, p. 334). According to this line of thinking, there is an interaction among modes of thought, so that the benefits of

art study go beyond its own, artistic cognitive outcomes. Artistic cognitive benefits consist of abilities of translation and transfer which give qualitative nuances to language, speech, and social relationships (Eisner, 1981, 1982). How something is presented constitutes its style (Feinstein, 1984). In this sense, art is metaphoric, with literal (denotative) and nonliteral (connotative) aspects; nonliteral meanings relate to how (style) something is presented. A tree (literal/denotative meaning) can communicate optimism (nonliteral/connotative, metaphoric meaning) by the way it is represented. A solitary house on a hill framed by an expanse of sky becomes a metaphor of alienation and individual choice. In art, shapes, forms, and things communicate meanings that extend far beyond their recognizable features. They open up possibilities for multiple meanings; they are more and greater than what they literally <u>are</u>. According to Broudy (1982), art study offers opportunities to understand the <u>qualities</u> of art and of other aspects of experience through the reading of moods, nonverbal forms of communication, and the <u>way</u> the visual world is physically composed. Eisner (1980, 1982) speaks of perception and perceptual knowing as giving form and meaning to the qualities of experience, much as Langer (1953) speaks of art giving form to the internalized life of feeling. Internal concepts and intuitions are externalized and labelled and given descriptors or configurations which may be verbal, numerical, tactile, kinesthetic, auditory, and so on (see Hamblen, 1983; Perkins & Leander, 1977).

Contemporary researchers in cognitive psychology and nonverbal communication document interrelationships between conceptual knowing and affective knowing. Affect involves internalized processes of thinking and is externally communicated through socially recognized systems of communication such as the arts, modes of behavior, and qualities of the designed environment. The study of the visual arts extends affective knowing abilities which are increasingly being recognized in science and industry. In university departments of engineering and mathematics and in business corporations such as IBM, students and workers are trained through art activities to tap intuitive, creative, qualitative, and visual ways of knowing and communicating that are used to extend their thinking in mathematics, scientific investigations, and social planning.

Art study and the manipulation of studio materials provide opportunities for context-specific and material-related knowledge by dealing with visual concepts in concrete ways (Dalke, 1984). In this manner art study deals with the concrete, the sensory, and the particular and facilitates the transition from concrete experience to the abstractions required in reading, writing, and mathematics.

Some psychologists believe that images precede the structuring of abstract, formal relationships (see Piaget & Inhelder, 1956). According to McGuire (1984), the arts allow for more complete and full cognition and language development in that the arts and language (verbal, reading, and writing) share some of the same mental functions (Gardner, 1973, 1977; McGuire, 1984).

Some theorists claim that it is not actually concrete experience but

the fantasy of imagination and of internal manipulation that positively correlates with children's academic abilities in language and mathematics (Ives & Pond, 1980). Fantasy allows for internalized cognitive variation, hypothesis testing, and experience with intellectual and visual pattern structures. As a preliminary phase to writing, drawing, for example, offers a rehearsal of possibilities and structural organizations (Graves, 1984).

Olson (1987) found that verbal learners who engaged in drawing before writing did better than those who did not. Ives and Pond (1980) believe that if students have low verbal skills, imagery learning may help them and that the low verbal and reading skills of some students might be explained by their not having access to, or being allowed to, give visual expression to their cognitive processes. Deficits exhibited by students in regard to the abstractions of language and mathematical problem-solving, prediction, and extrapolation could likewise be attributed to their having a preference for visual or imagery learning as compared to the linguistic and numerical learning which is emphasized in schools (see McFee, 1970). According to McFee (1970) and Walker (1988), some individuals think primarily in terms of images and visual relationships.

To summarize, the cognitive rationales for art study as they relate to instrumental outcomes hinge primarily on (1) the extension of knowing that art per se provides and (2) the relationship artistic knowing has to knowing in other school subjects. Neither of these rationales deal

with "knowing" in terms of acquiring a body of knowledge, that is, the disciplinary knowledge of art as discussed by discipline-based art education proponents. However, art knowledge per se may also provide occasions for linkages and transfer. For example, learning about the development of abstract artistic styles at the beginning of the twentieth century may help students understand parallel scientific theories and historical events of that time in their history and social studies classes. Disciplinary art knowledge provides a scaffolding, and, in dealing with art disciplinary knowledge, cognitive processes are explored that may provide occasions for transfer to other discipline-related experiences.

In elementary schools in Florida using a discipline-based approach to art, science classes use Georgia O'Keeffe's paintings to deal with differences between quantitative and qualitative analysis. The works of Mondrian are the focus for the mathematical study of geometric shapes and relationships; a painting by Klee was geometrically enlarged on an outdoor school yard to teach measurement, placement, and proportion. In kindergarten and first grades, students develop shape recognition within their everyday experiences of the built and natural environments. In social studies classes, students develop pictorial and symbolic languages for prehistorical societies and study cave paintings in relationship to evidence of fossils, to cave building processes, and to toolmaking. In language arts classes, abstract designs illustrate or symbolize literary works. French language instruction relates to analysis of French art. Art works serve as catalysts for creative

writing activities in prose and poetry forms. Still lifes depicting food are a focus for the study of nutrition and the study of changing historical menus. Students compare time lines for the history of art to time lines for social, political, economic, and technological developments. Time line games in art give pictorial referents for abstract ideas and distant events.

Supportive Research.

A number of researchers find increased reading scores in relationship to students' participation in an arts curriculum (Dalke, 1984; Hall, 1979; McGuire, 1984; Silver 1975, 1978; Silver & Lavin, 1977). Specific art interventions to promote eye-and-hand coordination, span of interest, self-image, and self-awareness have increased perceptual and motor ratings (Carter & Miller, 1971; Dalke, 1984).

For remedial readers, visual art and graphic images have been used to illustrate and elaborate on written text; this has allowed these readers to make tangible and multisensory contacts with percepts and concepts and has increased their reading abilities (Jansson & Schillereff, 1980). LEAP (Learning Through an Expanded Art Program) teacher-consultants in New York City believe that many at-risk children learn in nontraditional ways. Therefore, the educational focus is on active, tactile learning wherein outcomes are concrete and specific. While students are performing and creating art, they are learning basic reading, writing, and mathematics skills.

For some children, spoken vocabulary and silent reading have

improved with the use of graphic image exercises (McGuire, 1984; Platt, 1977). Caldwell and Moore (1991) conducted a study in which they compared the use of drawing before a writing exercise to the use of traditional verbal preparations. The group of second and third grade children who drew before writing scored significantly higher on measures of writing quality than the group of students who engaged in pre-writing discussions. In another study, after five months of participation in an arts curricula in which reading was integrated into the art program, children who had been two to five years behind in reading were up to grade-level (Lidstone, 1979; McGuire, 1984).

The best-known studies and programs linking art to academic achievement are the Learning to Read Through the Arts (LTRTA) and Reading Improvement Through Art (RITA) programs (Berger, 1975; Corwin, 1977, 1980; O'Brien, 1977; Seely & Hurwitz, 1983). In RITA, vocabulary and reading are integrated in the art class, and art concepts are used instructionally in reading classes, thereby linking both a total art program and a total reading program. These programs are for students reading below grade level to contextualize reading, to work from concrete experiences to abstract language skills, and to use motivating experiences to interest students in reading. From participation in RITA, students achieved reading improvement in one semester more than what was anticipated would occur in an entire year (Corwin, 1977, 1980).

In LTRTA and RITA programs, there has been an acknowledgement that current, traditional approaches to reading have not worked for the participating students and that a variety of approaches using a variety

of materials to contextualize reading are necessary. However, the findings have limitations; for example, Corwin (1980) states that no control groups were used for the evaluation of RITA.

Art for Motivation

Art study--and studio production in particular—allows students to have hands-on experiences with art materials and to experience directly relationships between their actions and outcomes, between causes and effects. Since for much art instruction outcomes are concrete and public, students are encouraged to examine rationales for the choices they make, to develop alternative strategies, to capitalize on serendipitous events, and to be responsible for the outcomes. This is very different from instruction in which end results are specified. For example, at-risk adolescent students are commonly at the concrete stage of cognitive operations; with most school subjects requiring abstract cognitive processes, these students have little choice but to feel inadequate to school tasks (Eisner, 1980). Youth who are at-risk of dropping out of school often feel disenfranchised from decisionmaking in school activities. Artmaking provides ample opportunities for process involvement with significant outcomes.

The concrete, everyday, and "real-time" potential of art instruction is contrasted to the emphasis on abstract knowledge in other subject areas. Collaborative art projects reveal the number of individuals involved in any artistic endeavor and the many careers that support the final art product (Becker, 1982; Perr, 1988). For example, in a

collaborative project carried out by students in making a photomontage book of the elderly in their community, students performed the duties of interviewer, photographer, graphic designer, layout designer, printer, and salesperson (Perr, 1988). The work of these students involved public relations and interpersonal communication skills, legal permission to photograph, as well as numerous aesthetic and thematic photographic choices. Such activities require students to analyze and reflect upon their decisions in relationship to real or simulated personal and social outcomes.

Art production and art response require active, attentive involvement rather than passive learning. Although there are certainly facts, procedures, and skills that are fairly well-defined and prespecified and are learned in a denotative manner, such knowledge-based art information and skills are manipulated and varied within activities involving the making of art and the analysis of art. In art instruction, the student is most often not entering a clearly delineated format of procedures and meanings. Students are often rewarded for trying different approaches and for taking risks in the manipulation of ideas and materials.

Considering the extent to which most school activities are abstract and depersonalized, art offers opportunities for students to be personally engaged in concrete activities that have possibilities for real-life outcomes. Motivation theories related to supporting instrumental art outcomes are primarily compensatory, i.e., art provides student-engaging experiences that are lacking in the rest of education.

Supportive Research.

In a study of students exercising self-agency compared to teacher-

originated choices, King (1983) found that adolescent art students engaged in self-agency showed higher academic achievement and more positive self-concepts than those who were not allowed to initiate problem solving and make independent choices. In addition to being linked to higher scores on the Goodenough-Harris Draw-A-Man tests that are correlated with I.Q., art experiences have been used to improve self-image and body imagery (Dalke, 1984; DeChiara, 1982). Much of the research on art and motivation, which is primarily anecdotal, indicates that art programs can motivate students to attend to school-related requirements (Hull & Walker, 1984).

Other Psychological and Social Dimensions

The visual revolution of twentieth century modern media, advertising, and video games has resulted in approximately 50 percent of all individual and social decisions being based on some type of photographic image (Greh, 1984). Visual arts education allows for the study of the popular arts, commercial arts, and the graphic arts for the analysis of the powerful social role images play. In particular, Eisner (1987) suggests that art prepares students to deal with ambiguity. In our rapidly changing society, it is essential that students have experiences in which tradition is valued and the skills for coping with change are required. Experiences with art offer both symbolic and practical occasions to deal with change, ambiguity, and, even, chaos.

In the twentieth century, there has been an emphasis on individual development, achievement, and expression. As society moves toward the

characteristics and values of more pluralistic experiences, the individual is considered as developing and acting within the context of community and society-at-large. Most art learning is not evaluated on the basis of a single test score or from individual student efforts sealed off from the work of others; both student art production and art response occur within an environment in which students develop individually and see their art work--studio or other--responded to and evaluated collectively through critiques and other responses. Feldman (1981) has emphasized, for example, the social sharing involved in art criticism; verbal art critical comments become part of the shared meanings and evaluations of art.

Visual Arts and At-Risk Students

The theory and research cited in this paper certainly do not indicate that instrumental outcomes should be the only rationale for the study of art or that such benefits should be the goals of all art programs. Rather, the cited theory and research indicate that there have been and can be linkages between art learning and learning in other subject areas and that art study can increase positive attitudes toward self and others and the learning of social skills. Such linkages are perhaps strongest and most justifiable as an art program rationale when there is a specific need for instrumental outcomes and when there is a conscientious effort to facilitate transfer of such outcomes.

In particular, the increasing number of students who are at-risk for dropping out of school and low achievement is well-documented, and alternatives to traditional forms of education are appropriate (Dorrell,

1989). Current thinking on the issue of at-risk students suggests that such students need a qualitatively different type of education than is now traditionally presented in our schools; such students do not merely need more intensified experiences of current educational practices. The following are considered essential for at-risk students: Intervention must be tailored to students' aptitudes and learning styles, concrete relationships must be made to abstract principles and knowledge, participatory and direct experience activities must be the initial focus of instruction, and an environment must be developed that conveys caring and promotes self-esteem (Banks, 1987; Dorrell, 1989; Erickson, 1989; Valdivieso, 1987; Wehlage, 1988). Needless to say, these are characteristics and outcomes described by proponents of instrumental art study outcomes.

In making art, there is often a direct, concrete, and personally experienced link between taking a particular action and its consequences. A splash of vivid red paint on a canvas makes an expressive qualitative statement that differs from leaving the space blank or filling it with precise outlined shapes; the surface of a metal worked into a scalloped effect will not easily change into a surface of incised lines. Cause-and-effect relationships, being attentive to the opportunities of the moment, and a willingness to test and take chances are part of the give-and-take cognitive processes of reasoning that occur within artistic creation.

Moreover, much art content is open to debate or to conjecture.

Unless one relegates art instruction to a matter of learning dates, artists' names, and textbook definitions, art opens up a veritable Pandora's Box of questions that actively involve students in the construction of meaning. Art calls forth interpretation, whether this involves the student's painting of a still life or the student's inquiry into the meanings of different artistic styles. At the Ashley River Elementary School in Charleston, South Carolina, through focusing on the arts, teachers are able to use traditional textbooks and other materials as resources rather than as inflexible structures for activities. Rose Maree Myers, the principal, states that the arts "help you get out of those trenches of three reading groups a day, meaningless worksheets and a loss of the joy of learning" (personal communication, 1991). The wealth of art forms that are studied and their linkages to life experiences in the sciences, language arts, and other subjects provide content and thinking skills basic to what educators have come to define as quality education. The fact that the visual arts tend to interest and motivate students suggests that art education may be ideal for many at-risk students.

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